REMARKS

The examiner is thanked for the performance of a thorough search. By this amendment, Claim 5 is canceled; Claims 1-3, 12, 13, and 18-22 are amended; and new Claims 29-30 are added. Hence, Claims 1-4 and 6-30 are pending in the application. The amendments to the claims as indicated herein do not add any new matter to this application. Furthermore, amendments made to the claims as indicated herein have been made to exclusively improve readability and clarity of the claims and not for the purpose of overcoming alleged prior art.

Each issue raised in the Office Action mailed September 25, 2002 is addressed hereinafter.

I.   ISSUES RELATING TO PRIOR ART

A.   CLAIMS 1-2, 6-9, 14-16, 20-22, 24, 27-28

Claims 1-2, 6-9, 14-16, 20-22, 24, 27-28 are rejected under 35 U.S.C. § 102(e) as being unpatentable over Martin U.S. Pat. No. 6,154,776 ("Martin"). The rejection is respectfully traversed.

In a proper rejection under § 102(e) the cited reference must show each and every claimed feature in the same combination as arranged in the claim. See Lewmar Marine, Inc. v. Barient, Inc., 827 F.2d 744, 747-48, 3 USPQ2d 1766, 1768 (Fed. Cir. 1987). If even a single element or limitation is missing from the reference, anticipation is not found. Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983).

A key distinction between the claims as amended and Martin is that the claims provide for establishing a mapping of application information for traffic flows associated with one or more message types that may be generated by an application, but **Martin cannot differentiate among multiple message types that may be generated by an application**. Martin responds on the fly to detection of a new "entity" flow in the network and creates an association to an existing configuration rule. See Martin, col. 3, lines 30-56. For Martin, an "entity" is a user, an

application, a piece of equipment, or other network entity, **but Martin fails to deal with multiple message types that could be generated by an application**. As taught by Applicants, one application (such as a Finance application) can generate many different kinds of messages (such as a Finance Transaction message or a Finance Reporting message). Each different type of message can map to a different QoS treatment. See Specification at pp. 19-20. Due to this basic distinction, Martin does not anticipate the claims.

The Office Action states that Martin shows "receiving device information that defines one or more quality of service treatments that the network device may apply to data processed by the network device" at col. 2, lines 7-13, and col. 7, lines 19-21, 27-30. This is incorrect. The cited passages teach retrieving user parameters from a directory service that are used to define QoS factors for a particular user, including different instances of a user on the network. However, this is not what is claimed. The cited claim limitation refers to receiving information that defines the QoS capabilities of a particular device within a network that may have many different kinds of devices with different QoS capabilities. Martin selects QoS on a per-user basis and its description of QoS enforcement point 20 and router 24 do not suggest that the network could contain different kinds of enforcement points or routers with different QoS capabilities. The claim selects QoS on a per-device basis. Martin does not teach this and therefore cannot support a § 102(e) rejection. Withdrawal of the rejection is respectfully requested.

The Office Action asserts that Martin teaches "based on the device information and the application information, determining one or more processing policies that associate the traffic flows with the quality of service treatments" at col. 2, lines 17-20, col. 3, lines 32-45, 65-67, col. 4, lines 1, 29-32, 55-60, col. 7, lines 55-59, col. 8, lines 54-57, col. 9, lines 65-67, col. 10, lines 1-2. This is incorrect.

Because Martin does not determine what QoS to based on the capabilities of a network device, Martin does not teach determining processing policies based, in part, on device information. Specifically, col. 2, lines 17-20 teach use of a configuration rule (not device information) to define QoS based on flow characteristics. Col. 3, lines 32-45 teaches use of bindings based on flow parameters to dynamically select a configuration rule; no device information is involved. Col. 3, lines 65-67 to col. 4, line 1 teach looking up a configuration rule based on known flow parameters. Col. 4, lines 29-32 teach applying QoS to a device, not selecting which QoS to use based on device information. Col. 4, lines 55-60 teaches storing the configuration rules in a directory. Col. 7, lines 55-59 teaches how to determine whether a flow represents a new instance of an entity. Col. 8, lines 54-57 defines configuration rules as actions applied to a flow and to whom the actions are to be applied. Col. 9, lines 65-67 to col. 10, lines 1-2 define lookup parameters for finding a flow.

Nothing in Martin teaches determining what QoS to use based on device-specific information as well as application information. Therefore, Martin cannot support a § 102(e) rejection. Withdrawal of the rejection is respectfully requested.

Further, in the independent claims as amended, the device information and the application information both are stored in the directory. Martin uses a directory only for storing QoS configuration rules. Martin has no teaching of storing application information in a directory or in the same directory as the device information; instead, Martin identifies entities "on the fly" by recognizing flow packets of entities.

For all these reasons, Claim 1 is allowable over Martin. Claim 20 and Claim 21 are computer-readable medium and apparatus claims, respectively, that correspond to Claim 1. Claim 20 and Claim 21 have been amended in the same manner as Claim 1, and therefore are allowable for the same reasons given above for Claim 1.

Each of the other claims depends, directly or indirectly, from either Claim 1, 20, or 21, and therefore each of the dependent claims includes each of the features described above that distinguish the independent claims. Accordingly, Martin anticipates none of the dependent claims. Further, each of the dependent claims is patentably distinct from Martin. Selected examples are now discussed.

Regarding Claim 2 and Claim 22, the Office Action asserts that all the features of the claims are founding Martin. Claim 2 and Claim 22 have been amended to feature storing both the application information and the device information in the repository. As stated above with respect to Claim 1, Martin uses a directory only for storing QoS configuration rules. Martin has no teaching of storing application information in a directory or in the same directory as the device information; instead, Martin identifies entities "on the fly" by recognizing flow packets of entities. Therefore, Claim 2 and Claim 22 feature subject matter not found in Martin, and are allowable over Martin.

With respect to Claims 14, 15, and 27, the Office Action asserts:

> "... Martin discloses determining one or more processing policies comprises creating and storing one or more policy statements in a repository (as shown in the rejection of claims 1, 6, and 8) and a policy defines actions to be applied to a flow and also identifies to whom the actions are to be applied (column 8, lines 55-57, column 9, lines 49-51). Therefore, Martin implicitly discloses determining one or more processing policies comprises creating and storing one or more policy statements in a repository, wherein each policy statement associates a condition of one of the traffic flows, an operator, an operand, and an action comprising one of the quality of service treatments."

This rationale is legally insufficient to support an anticipation rejection. First, the rejection of Claim 1 has been shown to be incorrect in the discussion above. "Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the

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claim ... A prior art disclosure that 'almost' meets that standard does not 'anticipate.'" Connell, supra, 722 F.2d at 1548, 220 USPQ at 198. Claims 14, 15, and 27 explicitly require a condition of one of the traffic flows, an operator, an operand, and an action, and it is insufficient under §102(e) to say that a reference implies something that is explicit in the claim. One of ordinary skill in the art would not understand the reference to contain the specific things that are claimed. Therefore, the rejection of Claims 14, 15, and 27 should be withdrawn.

The rejection of Claims 16 and 28 is similarly insufficient in relying on implicit disclosure in Martin.

B.   CLAIMS 3-5 AND 23

Claims 3-5 and 23 are rejected under 35 U.S.C. § 103 as allegedly unpatentable over Martin in view of Chapman U.S. Pat. No. 6,028,842. With respect to Claims 3 and 23, the Office Action contends that Chapman teaches classifying traffic flows. However, this is not what is claimed.

First, Claim 3 includes all the features discussed above with respect to Claim 1, and therefore is distinct from Martin for the same reasons given above with respect to Claim 1. Further, Claim 3 recites creating and storing one or more classes that classify the traffic flows. As amended, the classes are associated with one of the message types, i.e., message types generated by an application. As detailed in the specification, the information recited in Claim 3 is created and stored in advance of receiving any traffic flows that actually represent a particular message type.

In contrast, Chapman teaches dynamic classification after traffic has been received. The disclosure of Chapman with respect to classification must be taken in the context of the entirety of the Chapman disclosure, which is how it would be understood to one of ordinary skill in the art. Chapman teaches **discovering** the nature of the service for each traffic flow; in contrast, in Applicants' disclosure message types are explicitly mapped to QoS classes by an administrator. If one of skill in the art combined Chapman with Martin, the result would be an on-the-fly

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system that would detect entity flows and dynamically classify them. This is not the combination that is claimed in Claims 3 or 23.

Still further, Claim 3 recites "based on the device information and the classes of the traffic flows, determining one or more processing policies that associate the traffic flows with the quality of service." Chapman has no teaching of using **device information**, which indicates the capabilities of a device to apply QoS, to determine what policy should apply to a particular application flow.

Regarding Claim 4, the Office Action asserts that the six "classes of traffic flow" described in Chapman are the same as the application code points recited in the claims. This is incorrect. As clarified in the specification, "ACPs identify and define one or more types of traffic flows or classes that are produced by an application." In Chapman, classes represent multiple applications that generate traffic of a similar priority or characteristic. There is no teaching about associating multiple different traffic flows or message types from one application with different QoS values. Therefore, a combination of Chapman with Martin does not reach the claimed invention, and Claim 4 is allowable.

Claim 5 has been canceled solely because it appears to inadvertently present subject matter that substantially duplicates the subject matter of Claim 4.

C.   CLAIMS 10, 17, AND 26

Claims 10, 17 and 26 are rejected under 35 U.S.C. § 103 as allegedly unpatentable over Martin in view of Chapman U.S. Pat. No. 6,028,842 and further in view of Haddock et al. U.S. Pat. No. 6,104,700. The rejection is respectfully traversed.

Haddock is asserted for a teaching of DSCPs. It has none. While Haddock states that "traffic groups with a higher priority are preferred over those with lower priorities," this is not a teaching of DSCPs. The term DSCP has an industry-standard meaning, as described in IETF RFC 2475, a copy of which is submitted herewith in an Information Disclosure Statement. Haddock has no mention of DSCPs in this sense, and nothing in Haddock or RFC 2476 teaches

the use of DSCPs as a target for a mapping of application code points or application message types.

Further, for the reasons previously given with respect to Claim 1, Claim 21, and Claims 4-5, a combination of Martin and Chapman fail to reach the claimed invention. In Chapman, classes represent multiple applications that generate traffic of a similar priority or characteristic. There is no teaching about associating multiple different traffic flows or message types from one application with different QoS values. Therefore, a combination of Chapman with Martin does not reach the claimed invention. The addition of Haddock does not result in the complete combination invention as claimed because of the deficiencies of Martin and Chapman.

D.   CLAIMS 11-13 AND 19

Claims 11-13 and 19 have been rejected under 35 U.S.C. § 103 as allegedly unpatentable over Martin in view of Haddock et al. U.S. Pat. No. 6,104,700. The rejection is respectfully traversed.

Claims 11-13 each depend, directly or indirectly, on Claim 1 and therefore include all the features described above with respect to Claim 1. Accordingly, Claims 11-13 are patentably distinct from Martin for the reasons given above for Claim 1, and any combination of Martin with Haddock cannot reach the complete combination that is claimed.

Further, with respect to Claim 11, while Haddock mentions RSVP in its Background section, there is no teaching or suggestion to use RSVP in the manner recited in Claim 11 as a whole. A proper 103 rejection must be supported by a "factual inquiry whether to combine references that is thorough and searching." In re Lee, 61 USPQ2d 1430 (Fed. Cir. 2002). A showing of a suggestion, teaching, or motivation to combine the prior art references is an "essential component of an obviousness holding." In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1615, 1617 (Fed. Cir. 1999). The showing must come from the references themselves and cannot be based on hindsight. In re Lee, supra at 1434.

Nothing in Haddock suggests combining the use of RSVP with Martin or a system like Martin. Haddock merely notes the existence of RSVP and indicates that it is inadequate for his

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application. There is no teaching that RSVP ought to be combined with Martin. Even if such a combination occurred, at most it would provide for on the fly sensing of new entities, selecting a configuration rule, and issuing RSVP reservations. It would not provide the subtle but important features of Claim 1 and the other independent claims that are identified above. Accordingly, Haddock is not properly combined with Martin and does not teach, suggest or disclose the complete claimed invention.

Concerning Claims 12-13, the Office Action asserts that "Haddock discloses control over bandwidth allocation and traffic priority is in the hands of network managers." However, as amended, Claim 12 specifies that the application information is established by someone who manages applications, and not by the network manager. Claim 13 is made dependent on Claim 12 and therefore includes the same feature. The point of Claims 12-13 is that different individuals, with different areas of expertise, enter information that is within their expertise and are not required to perform configuration operations beyond their expertise. As described in the specification, the application manager sets up mappings of application message types or code points to application message flows. The network manager sets up mappings of the message types to QoS values. As a result, QoS treatment of application flows closely matches the capabilities of the application and the devices in the network.

Haddock, however, merely refers to "network managers" in a broad sense and without suggesting the specific features of Claims 12-13. Accordingly, Claims 12-13 are patentably distinct from Haddock and Martin and are believed to be allowable.

Claim 19 recites features that are similar to features found in Claim 1, 2, 6, and 8 and has been amended in the same manner as such claims. Therefore, Claim 19 is allowable for the same reasons given above with respect to Claim 1, 2, 6, and 8. The Office Action asserts Haddock for a teaching of DSCPs. It has none. While Haddock states "traffic groups with a higher priority are preferred over those with lower priorities," this is not a teaching of DSCPs. The term DSCP has an industry-standard meaning. Haddock has no mention of DSCPs in this sense, and nothing in

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Haddock or RFC 2476 teaches the use of DSCPs as a target for a mapping of application code points or application message types.

Further, for the reasons previously given with respect to Claim 1, 2, 6, and 8, a combination of Martin and Haddock fail to reach the claimed invention. There is no teaching about associating multiple different traffic flows or message types from one application with different QoS values. Therefore, a combination of Martin with Haddock does not reach the claimed invention.

E.   CLAIM 18

Claim 18 is rejected under 35 U.S.C. § 103 as allegedly unpatentable over Martin in view of McCloghrie et al. U.S. Pat. No. 6,286,052. The rejection is respectfully traversed.

As amended, Claim 18 features issuing a QoS request <u>using an application QoS policy element that is tightly coupled to the application program</u>. In a sense, Claim 18 recites in a proper, broad, functional manner the general principle illustrated by FIG. 6B in which application QoS policy element 609 calls the "setsockopt" function of UNIX, or the GQoS function of Windows NT, to cause network device 620 to apply a particular QoS to a flow generated by application 608. In this way, application 608 can selectively apply different QoS to different flows for different message types.

McCloghrie, col. 20, lines 19-40 merely suggests that operating system functions can be called by a specialized server and used for traffic management. McCloghrie has no suggestion that general purpose application program of the type disclosed by Applicants can be tightly coupled to an application QoS policy element that selectively applies QoS treatments to different flows issued by the application. Thus, in combination, McCloghrie and Martin cannot reach the claimed invention.

II.   CONCLUSIONS & MISCELLANEOUS

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application. Please charge any shortages in fees to Deposit Account No. 50-1302.

Respectfully submitted,

HICKMAN PALERMO TRUONG & BECKER LLP

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Christopher J. Palermo
Reg. No. 42,056

1600 Willow Street
San Jose, California 95125-5106
Telephone No.: (408) 414-1080
Facsimile No.: (408) 414-1076